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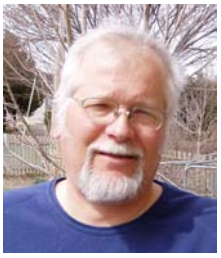

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Plant Disease in Kansas

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HIGHLIGHTS

Soybean diseases were present in the majority of fields visited in the eastern half of Kansas. Brown spot, bacterial blight and frogeye spot were reported. Asian soybean rust was not observed during survey.

In corn, gray leaf spot was the predominant disease. About 20 per cent of the fields had significant disease pressure.

Oak wilt was observed in a Franklin County forested site. The disease is of concern to exportation of lumber from the state of Kansas to international markets.

Wheat loss from diseases was estimated at 12.9 per cent or 55 million bushels.

OUTLOOK

Recent rains over the weekend across much of Kansas should provide some relief to heat and drought stressed crops.

CORN

Over the past few weeks, corn production has been monitored for exotic and endemic diseases. Gray leaf spot which in the past has required emergency labeling of certain fungicides was common to many fields in northeast and south central Kansas (J. Appel, KDA). About one in five fields had significant levels of disease which was greater ten per cent of the leaf area and well above the ear leaf. Counties with reports of disease severity greater than 10% were Brown, Nemaha, Harvey, Reno, Sedgwick, Kiowa, and Edwards.

Figure 1. Low level of gray leaf spot in corn

Other diseases observed were common maize smut, common maize rust, Stewart's wilt, and *Fusarium* ear rot. All these diseases were at very low levels. Stewart's wilt and ear rot have been important to export and livestock toxin concerns in the past.

The exotic downy mildews which are of concern to seed and grain production were not observed.

FOREST AND URBAN TREES

Oak forested lands in Kansas are a significant part of the land use in the eastern third of the state. Uses include wildlife habitat, lumber, and recreation. In a cooperative project with the Kansas Forest Service, the Kansas Department of Agriculture has been monitoring oak sites where decline has been noted. Two diseases of particular attention to the study have been sudden oak death and oak wilt.

Oak wilt was reported for the first time at one of the sites in July and in August (J. Appel). The site was in Franklin County and northern red oaks were affected. The disease can spread rapidly among oaks in the red oak group and move long distances if recently dead trees are used for firewood

or lumber. The disease is regulated in some states and in international markets.

Figure 2. Oak wilt with leaf symptoms

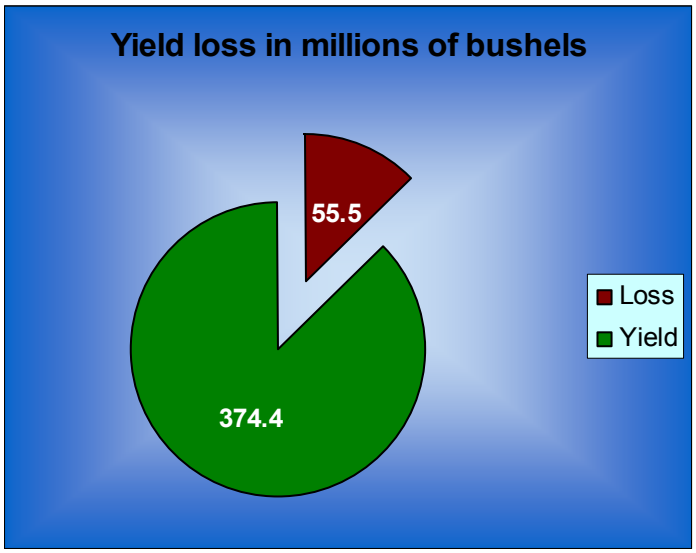
SOYBEAN

Asian soybean rust has been of considerable interest this growing season because of its potential to devastate large acreages of soybean production in the United States. In Kansas, a sentinel site program directed by KSU extension and a mobile survey by the Kansas Department of Agriculture has monitored soybeans for the disease. These activities mirror national efforts to predict and monitor disease. No reports of the disease have been made so far in Kansas or in neighboring states. Nearest reports are only as close as southern Mississippi and prediction models indicate nearest possible spore deposition in Kentucky and Tennessee. Last year, rust was found as close as southeastern Missouri and southern Arkansas.

In Kansas, diseases reported have been primarily brown spot in the eastern third of the state and bacterial blight in the eastern half of the state. Brown spot has been severe in some fields where the lower 1/3 of the plant has been defoliated. These fields were located in Anderson, Linn, and Brown counties (J. Appel). Bacterial blight was common to many fields but at trace to low levels. KSU Extension (Doug Jardine) reported recent sudden death syndrome finds in Sedgwick County and early charcoal rot development in fields. Two suspect samples for sudden death syndrome from Riley and Harvey counties where submitted this past week to KSU for diagnosis from survey. In addition, frogeye leaf spot which can cause significant loss was reported in Anderson County. This disease is not common to Kansas.

Figure 3. Frogeye leaf spot of soybean

WHEAT



Wheat disease loss estimates were made by Kansas State University, USDA, and Kansas Department of Agriculture personnel in July (see related article, KDA-Kansas Cooperative Survey Report…Preliminary 2005 Wheat Disease Loss Estimates). One eighth of the crop was lost to disease. Stripe rust was the most important disease with an estimate of 8% loss followed by wheat streak mosaic and leaf rust both at 2% loss estimates.

Karnal bunt sampling in Kansas for 2005 has been completed and again the grain production within the state appears to be free of any detectable levels of the important export significant disease. Thanks to the many grain cooperatives across the state who participated on behalf of the whole industry in this program.